

### **REMARKS**

Claims 1, 3-12, 26, 38-49, 74, 91 and 175-192 are pending in the Application. Claims 26, 38-48, 74, 91, 179-182, 186 and 189 were allowed, claims 1, 3-6, 9-11, 49, 175-178, 183-185, 187, 188 and 190-192 were rejected, and claims 7, 8 and 12 were objected to in the final Office action mailed July 26, 2007. Claims 1, 26, 49, 74, 175 and 178-182 are independent claims. Claims 3-12 and 183-185, claims 38-48 and 186, claims 187 and 188, claims 91 and 189, claims 176, 177, 190 and 191, and claim 192 depend either directly or indirectly from independent claims 1, 26, 49, 74, 175 and 178, respectively.

Applicants respectfully request reconsideration of claims 1, 3-12, 49, 175-178, 183-185, 187, 188 and 190-192, in light of the above amendments and the following remarks.

### **Amendments to the Claims**

Claims 1 and 49 have been amended to more clearly define the claimed subject matter. Applicants respectfully submit that no new matter is added by these amendments.

### **Objections to the Claims**

Claims 7, 8, and 12 were objected to in the Office action as being dependent upon a rejected base claim, but were deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicants respectfully traverse the rejection of the respective base claims. Claims 7, 8 and 12 depend either directly or indirectly from independent claim 1. Applicants believe that the rejection of claim 1 has been overcome, and that claim 1 is allowable, for at least the reasons set forth below. Therefore, the Applicants respectfully request that the objections to claims 7, 8 and 12 be withdrawn.

## **Rejection of Claims**

### **Point 2: Rejections Under 35 U.S.C. §103(a): Guy, Bartholomew and Shaffer**

Claims 1, 3, 49, 175-177, 183, 184, 187 and 190 were rejected under 35 U.S.C. §103(a) as being unpatentable over Guy et al. (US 5,187,591, hereinafter “Guy”) in view of Bartholomew et al. (US 6,292,479, hereinafter “Bartholomew”) and Shaffer et al. (US 6,411,601, hereinafter “Shaffer”). The Applicants respectfully traverse the rejection.

The Applicants respectfully submit that the Examiner has failed to establish a case of *prima facie* obviousness for at least the reasons provided below. M.P.E.P. §2142 clearly states that “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” The M.P.E.P. §2142 goes on to state that “[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure.”

**With regard to claim 1**, the Applicants respectfully submit that the proposed combination of references, taken alone or in any combination, fails to teach, suggest, or disclose, for example, “...a resource monitor that monitors processor resources **during a call** used by one or both of the voice exchange and the data exchange...”, as recited in Applicants’ amended claim 1. Rather, Guy discloses, **prior to transmitting a signal**, determining whether a discriminator 20 will direct a switch 18 “to pass the signals coming in to the switch either to a transformer 22 of aural information or to demodulator equipment 24 depending upon whether the in-coming signals have a variable frequency or a constant frequency.” (Guy, Column 4, Lines 4-9). Bartholomew

discloses “the transport of a voice call through diverse network paths including a switched telephone network and a wide area data internetwork, for example, the Internet. The routing set-up for such call includes conveyance of caller identification information to the destination network to enable provision of caller information based enhanced services to subscribers.” (Bartholomew, Col. 1, Lines 20-26). Shaffer discloses the following:

[T]he resource availability monitor determines if Digital Signal Processor (DSP) requirements in the call request exceed DSP availability. If the resource requirements exceed the resource availability at the time when the call request is received, a resource reservation mechanism places the call request into network resource queues for those network resources which are in short supply. When the call request reaches the front of one of the network resource queues, the resource reservation mechanism reserves the network resource for a predetermined time interval and determines whether all resource requirements for the call request can be satisfied. **If so, the call is established.**

(Shaffer, Abstract (emphasis added)). However, the discriminator 20 in Guy, the resource availability monitor 42 in Shaffer and the invention in Bartholomew disclose call set-up/call requests and fail to disclose “a resource monitor that monitors processor resources during a call,” as recited in Applicants’ amended claim 1. Applicants therefore submit that Guy, Bartholomew and Shaffer, taken alone **or in any combination**, fail to teach all of the limitations of Applicants’ claim 1, as required by MPEP §2142.

Additionally, regarding claim 1, the Applicants respectfully submit that the proposed combination of references, taken alone or in any combination, fails to teach, suggest, or disclose, for example, “**dynamically enables and disables signal processing functionality** used by the one or both of the voice exchange and the data exchange in the exchange of one or both of the voice and data signals of the call, to control processor computational load...”, as recited in Applicants’ amended claim 1.

The final Office Action alleges that Guy discloses “dynamically enables and disable signal processing functionality used by the one or both of the voice exchange and the data

exchange in the exchange of one or both of the voice and data signals of a call (see col. 3, line 59 to col. 4, line 10; discriminator 20 dynamically enabling/directing determined voice signal processing functionality used by Aural module (for voice), for the transmission of voice signal of a connection/call, thereby disabling/not-directing/stopping processing functionality used by a modulator/demodulator module (for data/fax); or discriminator 20 dynamically enabling/directing determined fax signal processing functionality used by a modulator/demodulator module (for data/fax), for the transmission of data/fax signal of a connection/call, thereby disabling/not-directing/stopping processing functionality used by a Aural module (for voice)).” (Final Office Action, Pages 3-4).

Also, the final Office Action alleges that Shaffer discloses “dynamically enables (see FIG. 4, step 74, 84; based on DSP/CPU resource availability dynamically processing the call) and disable signal processing functionality (see FIG. 4, 74, 76, 78, 80; based on DSP/CPU resource availability dynamically holding/stopping disabling the processing of a call)....” (Final Office Action, Pages 4-5).

However, nowhere in Guy, Shaffer, Bartholomew or the combination of Guy, Shaffer and Bartholomew, is there any mention of “**dynamically enables and disables signal processing functionality.**” as set forth in Applicants’ amended claim 1. Rather, Guy discloses a discriminator 20 that passes the signals to a switch 18 and directs the switch 18 to pass the signals “either to a transformer 22 of aural information or to demodulator equipment 24 depending upon whether the in-coming signals have a variable frequency or a constant frequency.” (Guy, Col. 4, Lines 4-9). The final Office Action alleges that by determining the in-coming signal is aural information and directing the switch to pass the in-coming signal to the aural module, the discriminator 20 in Guy enables the aural module and disables the modulator/demodulator module (for data/fax). **However, Guy fails to disclose disabling the modulator/demodulator module (for data/fax) in that example. By determining the in-coming signal is aural information and directing the switch to pass the in-coming signal to the aural module, the discriminator 20 in Guy does not disable the modulator/demodulator module (for data/fax) because nothing in Guy indicates that the modulator/demodulator**

**module (for data/fax) was enabled.** Shaffer discloses in Figure 4, determining whether the required resources are greater than available resources. (Shaffer, Fig. 4, 74). If the determined required resources are not greater than the available resources, a call is established. (Shaffer, Fig. 4, 84). If the determined required resources are greater than the available resources, the call request is queued until the resources become available using the resource reservation mechanism. (Shaffer, Fig. 4, 76, 78, 80, 82). **Shaffer's disclosure of queuing a call request until resources become available is different than disabling signal processing functionality because nothing in Shaffer indicates that signal processing functionality was enabled prior to the determination that resources were not available.** Bartholomew is silent regarding "dynamically enables and disables signal processing functionality...." Applicants therefore submit that Guy, Bartholomew and Shaffer, taken alone **or in any combination**, fail to teach all of the limitations of Applicants' claim 1, as required by MPEP §2142.

**With regard to claim 49**, the Applicants respectfully submit that the proposed combination of references, taken alone or in any combination, fails to teach, suggest, or disclose, for example, "...dynamically enabling and disabling signal processing functionality during a call used in the exchange of one or both of the voice and data signals of the call, to control processor computational load", as recited in Applicants' amended claim 49. As mentioned above, the discriminator 20 in Guy, the resource availability monitor 42 in Shaffer and the invention in Bartholomew disclose call set-up/call requests and fail to disclose "dynamically enabling and disabling signal processing functionality **during a call**," as recited in Applicants' amended claim 49. Applicants therefore submit that Guy, Bartholomew and Shaffer, taken alone **or in any combination**, fail to teach all of the limitations of Applicants' claim 1, as required by MPEP §2142.

Additionally, as discussed in detail above, nowhere in Guy, Shaffer, Bartholomew or the combination of Guy, Shaffer and Bartholomew, is there any mention of "**dynamically enabling and disabling signal processing functionality**," as set forth in Applicants' amended claim 49. Rather, Guy discloses a discriminator 20 that passes the signals to a switch 18 and directs the

switch 18 to pass the signals “either to a transformer 22 of aural information or to demodulator equipment 24 depending upon whether the in-coming signals have a variable frequency or a constant frequency.” (Guy, Col. 4, Lines 4-9). The final Office Action alleges that by determining the in-coming signal is aural information and directing the switch to pass the in-coming signal to the aural module, the discriminator 20 in Guy enables the aural module and disables the modulator/demodulator module (for data/fax). **However, Guy fails to disclose disabling the modulator/demodulator module (for data/fax) in that example. By determining the in-coming signal is aural information and directing the switch to pass the in-coming signal to the aural module, the discriminator 20 in Guy does not disable the modulator/demodulator module (for data/fax) because nothing in Guy indicates that the modulator/demodulator module (for data/fax) was enabled.** Shaffer discloses in Figure 4, determining whether the required resources are greater than available resources. (Shaffer, Fig. 4, 74). If the determined required resources are not greater than the available resources, a call is established. (Shaffer, Fig. 4, 84). If the determined required resources are greater than the available resources, the call request is queued until the resources become available using the resource reservation mechanism. (Shaffer, Fig. 4, 76, 78, 80, 82). **Shaffer’s disclosure of queuing a call request until resources become available is different than disabling signal processing functionality because nothing in Shaffer indicates that signal processing functionality was enabled prior to the determination that resources were not available.** Bartholomew is silent regarding “dynamically enabling and disabling signal processing functionality....” Applicants therefore submit that Guy, Bartholomew and Shaffer, taken alone **or in any combination,** fail to teach all of the limitations of Applicants’ claim 49, as required by MPEP §2142.

Therefore, Applicants believe that claims 1 and 49 are allowable over the proposed combination of references, for at least the reasons set forth above. Applicants respectfully submit that claims 3-12 and 183-185 and claims 187 and 188 depend either directly or indirectly from claims 1 and 49, respectively. Because claims 3-12 and 183-185 and claims 187 and 188 depend,

respectively, from claims 1 and 49, Applicants respectfully submit that claims 3-12 and 183-185 and claims 187 and 188 are also allowable, for at least the reasons set forth above with respect to claims 1 and 49, respectively. Therefore, Applicants respectfully request that the rejection of claims 1, 3, 49, 183, 184 and 187 under 35 U.S.C. §103(a) be withdrawn.

**With regard to claim 175**, the Applicants respectfully submit that the proposed combination of references fails to teach, suggest or disclose, for example, “dynamically enabling and disabling signal processing functionality during processing of the depacketized signal, to control processor computational load”, as recited in Applicants’ claim 175.

The final Office Action states that Guy discloses “dynamically enables and disable signal processing functionality during processing of the depacketized signal, used by the one or both of the voice exchange and the data exchange (see FIG. 1-2, Discriminator 20 monitors/detects processing of aural module and modulator/demodulator module; see col. 3, line 59 to col. 5, line 46; col. 3, line 59 to col. 4, line 10; discriminator 20 dynamically enabling/directing determined voice signal processing functionality used by Aural module (for voice), for during the transmission of voice signal of a connection/call, thereby disabling/not-directing/stopping processing functionality used by a modulator/demodulator module (for data/fax); or discriminator 20 dynamically enabling/directing determined fax signal processing functionality used by a modulator/demodulator module (for data/fax), for during the transmission of data/fax signal of a connection/call, thereby disabling/not-directing/stopping processing functionality used by a Aural module (for voice)).” (Final Office Action, Page 7).

However, the sections of Guy cited in the final Office Action fail to disclose “dynamically enabling and disabling signal processing functionality **during processing of the depacketized signal...**,” as recited in Applicants’ independent claim 175. Rather, Guy processes the depacketized signal in Figure 5 at the transformer of aural information 68 and V.29, V.27, V.21 modulator 70. The sections of Guy cited in the final Office Action refer to discriminator 20, which merely identifies whether the in-coming signal is aural information or

modulated data prior to the information/data being processed (22, 24), summed (32) packetized (38), multiplexed (46), demultiplexed (62), depacketized (64) and processed (68, 70). (Guy, Fig. 5 and Col. 6, Line 3-62). **Additionally, there is no disclosure in Guy regarding dynamically enabling and disabling signal processing functionality when Guy is processing the depacketized signal at the transformer of aural information 68 and V.29, V.27, V.21 modulator 70.**

Further, the final Office Action alleges that Shaffer discloses “dynamically enables (see FIG. 4, step 74, 84; based on DSP/CPU resource availability dynamically processing the call) and disable signal processing functionality (see FIG. 4, 74, 76, 78, 80; based on DSP/CPU resource availability dynamically holding/stopping disabling the processing of a call) **used by one or both of voice processing and the data processing in the exchange of one or both of the voice and data of a call**, to control processor computational load (see col. 4, line 1-47; col. 6, line 60 to col. 7, line 50; processing of voice, video, or both used/required by a voice/video/both call to control DSP resources/load).” (Final Office Action, Page 8 (emphasis added)). However, claim 175 does not include the claim limitation “used by one or both of voice processing and the data processing in the exchange of one or both of the voice and data of a call.” Rather, claim 175 states “dynamically enabling and disabling signal processing functionality **during processing of the depacketized signal**, to control processor computational load.” Shaffer fails to disclose processing a depacketized signal. Bartholomew is silent regarding “dynamically enabling and disabling signal processing functionality during processing of the depacketized signal, to control processor computational load.” Applicants therefore submit that Guy, Bartholomew and Shaffer, taken alone **or in any combination**, fail to teach all of the limitations of Applicants’ claim 175, as required by MPEP §2142.

Additionally, as discussed in detail above, nowhere in Guy, Shaffer, Bartholomew or the combination of Guy, Shaffer and Bartholomew, is there any mention of “**dynamically enabling and disabling signal processing functionality**,” as set forth in Applicants’ amended claim 175. Rather, Guy discloses a discriminator 20 that passes the signals to a switch 18 and directs the switch 18 to pass the signals “either to a transformer 22 of aural information or to demodulator



equipment 24 depending upon whether the in-coming signals have a variable frequency or a constant frequency.” (Guy, Col. 4, Lines 4-9). The final Office Action alleges that by determining the in-coming signal is aural information and directing the switch to pass the in-coming signal to the aural module, the discriminator 20 in Guy enables the aural module and disables the modulator/demodulator module (for data/fax). **However, Guy fails to disclose disabling the modulator/demodulator module (for data/fax) in that example. By determining the in-coming signal is aural information and directing the switch to pass the in-coming signal to the aural module, the discriminator 20 in Guy does not disable the modulator/demodulator module (for data/fax) because nothing in Guy indicates that the modulator/demodulator module (for data/fax) was enabled.** Shaffer discloses in Figure 4, determining whether the required resources are greater than available resources. (Shaffer, Fig. 4, 74). If the determined required resources are not greater than the available resources, a call is established. (Shaffer, Fig. 4, 84). If the determined required resources are greater than the available resources, the call request is queued until the resources become available using the resource reservation mechanism. (Shaffer, Fig. 4, 76, 78, 80, 82). **Shaffer’s disclosure of queuing a call request until resources become available is different than disabling signal processing functionality because nothing in Shaffer indicates that signal processing functionality was enabled prior to the determination that resources were not available.** Bartholomew is silent regarding “dynamically enabling and disabling signal processing functionality....” Applicants therefore submit that Guy, Bartholomew and Shaffer, taken alone **or in any combination**, fail to teach all of the limitations of Applicants’ claim 175, as required by MPEP §2142.

Therefore, Applicants believe that claim 175 is allowable over the proposed combination of references, for at least the reasons set forth above. Applicants respectfully submit that claims 176 and 177 depend either directly or indirectly from claim 175. Because claims 176 and 177 depend from claim 175, Applicants respectfully submit that claims 176 and 177 are also allowable over the proposed combination of references, for at least the reasons set forth above with respect to claim 175. Therefore, Applicants respectfully request that the rejection of claims 175-177 under 35 U.S.C. §103(a) be withdrawn.

**Point 3: Rejections Under 35 U.S.C. §103(a): Guy, Bartholomew, Shaffer and Ohlsson**

Claims 4-6 and 9-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Guy in view of Bartholomew and Shaffer, as applied to claim 1 above, and further in view of Ohlsson (US 6,452,950, hereinafter "Ohlsson"). The Applicants respectfully traverse the rejection. The Applicants respectfully submit that claims 3-12 and 183-185 depend either directly or indirectly from independent claim 1. Applicants believe that claim 1 is allowable over the proposed combination of references, in that Ohlsson fails to overcome the deficiencies of Guy, Bartholomew and Shaffer, as set forth above. Because claims 3-12 and 183-185 depend from independent claim 1, Applicants respectfully submit that claims 3-12 and 183-185 are allowable over the proposed combination of references, as well. Therefore, for at least the reasons set forth above, Applicants respectfully request that the rejection of claims 4-6 and 9-11 under 35 U.S.C. §103(a) be withdrawn.

**Point 4: Rejections Under 35 U.S.C. §103(a): Guy, Bartholomew, Shaffer and Sanders**

Claims 185, 188 and 191 were rejected under 35 U.S.C. §103(a) as being unpatentable over Guy in view of Bartholomew and Shaffer, as applied to claims 1, 49 and 175 above, and further in view Sanders et al. (US 6,704,308, hereinafter "Sanders"). The Applicants respectfully submit that claims 185, 188 and 191 depend either directly or indirectly from independent claims 1, 49 and 175, respectively. Applicants believe that claims 1, 49 and 175 are allowable over the proposed combination of references, in that Sanders fails to overcome the deficiencies of Guy, Bartholomew and Shaffer, as set forth above. Because claims 185, 188 and 191 depend, respectively, from independent claims 1, 49 and 175, Applicants respectfully submit that claims 185, 188 and 191 are allowable over the proposed combination of Guy, Bartholomew, Shaffer and Sanders, as well. Therefore, for at least the reasons set forth above, Applicants respectfully request that the rejection of claims 185, 188 and 191 under 35 U.S.C. §103(a) be withdrawn.

**Point 5: Rejections Under 35 U.S.C. §103(a): Guy, Bartholomew and Griffin**

Claim 178 and 192 were rejected under 35 U.S.C. §103(a) as being unpatentable over Guy in view of Bartholomew, and further in view Griffin et al. (US 5,826,222, hereinafter “Griffin”). The Applicants respectfully submit that the Guy, Bartholomew and Griffin references, taken alone or in any combination, fail to teach or suggest, at least, “comparing the estimated pitch period to a plurality of thresholds”, and “packetizing a voice signal, a fax signal, or a data signal in a packetization engine to generate a packetized signal, based upon the comparing the estimated pitch period to a plurality of thresholds and at least one power measurement of the voice band signal” as set forth in Applicants’ claim 178.

The Response to Arguments section of the final Office Action states that Guy discloses comparing detected pitch period to a plurality of thresholds (see col. 3, line 60-69; discriminating the voice signal pitch frequency/period by comparing to voice frequency thresholds/acceptable-level between 300 hertz and 2000 hertz).” (Final Office Action, Page 21). Additionally, Page 13 of the final Office Action states that “[n]ote that frequency=1/period, and thus when detecting a frequency it is also detecting a period.” However, claim 178 recites “comparing the estimated pitch period to a plurality of thresholds.” Further, Griffin, which was also cited in the final Office Action, defines the pitch period as  $2\pi$  divided by the fundamental frequency. Therefore, Griffin demonstrates that pitch period is not the same as frequency (as suggested in the final Office Action). Thus, Guy fails to disclose “comparing the estimated pitch period to a plurality of thresholds.”

Also, the Response to Arguments section of the final Office Action states that Griffin discloses “comparing the estimated pitch period to a plurality of thresholds (see FIG. 2, voice/unvoiced (V/UV) parameter estimation unit 24; or see FIG. 6, V/UV parameter estimation unit 46 determines preliminary estimated V/UV parameter by comparing threshold/value of zero and one half in order to determine voice or unvoiced signal; se col. 7, line 16-25; see col. 8, line 61 to col. 9, line 25).” (Final Office Action, Page 21). However, the voice/unvoiced (V/UV)

parameter in Griffin is not an estimated pitch period. Rather, as described in Griffin, the preliminary V/UV parameters  $A^0$  to  $A^k$  are produced by computing a ratio of the voiced energy in the frequency band at an estimated pitch period  $n_0$  to the total energy in the frequency band and subtracting this ration from 1.” (Griffin, Col. 9, Lines 25-30). Thus, when determining to what degree the frequency band signal is voiced or unvoiced, Griffin does not teach comparing the estimated pitch period to zero and one half. Rather, Griffin teaches comparing the V/UV parameter, which is different from the estimated pitch period, to zero and one half. Therefore, Griffin fails to disclose comparing the estimated pitch period to a plurality of thresholds.

Combining the estimation of V/UV parameters in Griffin with distinguishing between aural information and modulated data in Guy and Bartholomew (which is silent with regard to “comparing the estimated pitch period to a plurality of thresholds”) fails to disclose “comparing the estimated pitch period to a plurality of thresholds.” Nothing in Griffin, Guy or Bartholomew teach comparing the estimated pitch period to anything and the final Office Action fails to demonstrate some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Further, the final Office Action has failed to show that there would be a reasonable expectation of success. Rather, the estimated pitch period would not be comparable to frequency ranges identified in Guy nor the zero and one half parameters identified in Griffin. Therefore, comparing the estimated pitch period in Griffin to the frequency ranges in Guy or the zero and one half parameters in Griffin would not have a reasonable expectation of success. Because the Examiner has failed to establish a case of *prima facie* obviousness pursuant to M.P.E.P. §2142, the rejection of claim 178 cannot be maintained.

Therefore, Applicants believe that claim 178 is allowable over the proposed combination of references, for at least the reasons set forth above. Applicants respectfully submit that claim 192 depends from claim 178. Because claim 192 depends from claim 178, Applicants respectfully submit that claim 192 is also allowable, for at least the reasons set forth above with respect to claim 178. Therefore, Applicants respectfully request that the rejection of claims 178 and 192 under 35 U.S.C. §103(a) be withdrawn.

Appl. No. 09/522,185

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Resp. to final Office Action mailed July 26, 2007

Response dated October 31, 2007

Applicants reserve the right to argue additional reasons supporting the allowability of claims 1, 3-12, 26, 38-49, 74, 91 and 175-192 should the need arise in the future.

**CONCLUSION**

The Applicants wish to thank the Examiner for recognition of the allowable subject matter of claims 26, 38-48, 74, 91, 179-182, 186 and 189.

The Applicants believe that in light of the reasons set forth above, all of claims 1, 3-12, 26, 38-49, 74, 91 and 175-192 are in condition for allowance. Should the Examiner disagree or have any questions regarding this submission, the Applicants invite the Examiner to telephone the undersigned at (312) 775-8000.

A Notice of Allowability is courteously solicited.

The Commissioner is hereby authorized to charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 13-0017.

Respectfully submitted,

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